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# **BYOD IMPLEMENTATION: UNDERSTANDING ORGANIZATIONAL PERFORMANCE THROUGH A GIFT PERSPECTIVE**

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## **Abstract**

*BYOD, which allows employees to bring their own mobile devices to work and connect into the corporation network, has been increasingly implemented by numerous organizations and corporations. Companies expect to save cost as well as increase productivity and employees' morale through BYOD implementation. Hence, it is critical for companies to understand how BYOD affects organizational performance. Addressing on gift economy and cognitive evaluation theory, this study indicates the gift nature of BYOD and builds up a cross-level research framework which indicates two aspects of BYOD - informational aspect and controlling aspect. When informational aspect is perceived by employees, they will return positive outcomes, thereafter increase productivity and morale. In contrast to controlling aspect, negative outcomes will be returned and then decrease productivity and morale. A two-step mixed method approach will be conducted to test proposed research framework.*

*Keywords: Bring your own devices (BYOD), Gift economy, Cognitive evaluation theory, Informational aspect, Controlling aspect, Organizational performance*

# 1. INTRODUCTION

IT consumerization, which refers to use privately-owned IT resources for business purposes, has received increasing attention in both academic and practical areas (Niehaves et al., 2012; Niehaves, Köffer, Ortbach, et al., 2013; Ortbach, Bode, et al., 2013; Ortbach, Köffer, Bode, et al., 2013; Ortbach, Köffer, Müller, et al., 2013). Among contemporary information technologies, mobile technologies are the most frequently observed consumerized information technologies in organizations (Loose et al., 2013). Bring your own devices, abbreviated as “BYOD”, is one of the most visible IT consumerization strategies for mobile technologies that a growing number of companies start to implement it. A survey conducted by Rains (2012), which received 844 responses in more than thirty-five industries, has revealed that almost half of the companies have implemented BYOD for mobile devices (including tablets, cell phones/smartphones, and/or laptops). This survey also indicates that employees are advocates for BYOD because they are comfortable and familiar with their own devices and hope to increase their convenience of not switching among multiple devices (Shim et al., 2013).

Companies expect to save cost and increase productivity and employees’ morale through BYOD implementation (Ghosh et al., 2013; Shim et al., 2013; Steinert-Threlkeld, 2011). Although previous IT consumerization studies have provided some theoretical explanations for work performance (Niehaves, Köffer, & Ortbach, 2013), adoption of IT consumerization (Dernbecher et al., 2013; Loose et al., 2013; Ortbach, Bode, et al., 2013; Ortbach, Köffer, Bode, et al., 2013), and stress (Ortbach, Köffer, Müller, et al., 2013), attention is mainly paid to the individual level. However, companies expect to receive increased benefits for the whole companies through BYOD implementation, the organizational performance in particular. Accordingly, how the BYOD can be beneficial for companies is still under-studied, which is expected to be filled up in this study. Above discussion drives our research question: *whether or not can BYOD increase organizational performance (e.g., productivity enhancement, cost reduction, etc.)? If so, what are the underlying mechanisms?*

The existing studies assert that organizational performance will be increased with the increase on employees’ flexibility and satisfaction (Lebek et al., 2013). Therefore, companies’ benefits are tightly intertwined with employees’ benefits such that companies want to gain benefits only when employees perceive beneficial. Taken this into consideration, this study regards BYOD through the gift economy and takes BYOD as a *gift* from companies to employees (Mauss, 1954). The employees, who receive this gift, are expected to return back to companies, and what they receive determines what they may return back. By integrating the cognitive evaluation theory (Deci & Ryan, 1985, 2004), this study proposes that employees can receive both positive and negative issues from BYOD, leading them return both positive and negative aspects which will in turn increase or decrease organizational performance respectively. This assertion also echoes investigations of some extant studies that BYOD can bring greater freedom and flexibility and increased motivation to employees on one hand (Ghosh et al., 2013; Lebek et al., 2013; Loose et al., 2013; Shim et al., 2013; Twentyman, 2012) as well as extended working time and acceptance of regulations or security policies on the other hand (Loose et al., 2013; Oliver, 2012).

The remainder of this study is organized as follows. An introduction of BYOD, the gift economy, and the cognitive evaluation theory is proposed, followed by our theoretical framework. The methodology is proposed in section 3. The last section discusses potential implications of this research.

## 2. THEORETICAL BACKGROUND AND FRAMEWORK

### 2.1. BYOD – Bring Your Own Devices

BYOD, which allows employees to bring their own mobile devices to work and connect into the corporation network, has been increasingly implemented by numerous organizations and corporations. It is firstly referred by Intel in the year of 2009 after realizing the importance of employees using their own devices, and has received increasing research attention over the past three years.

Basically, there are four types of mobility strategies established by companies – Here is your own device (HYOD), Choose your own device (CYOD), Bring your own device (BYOD), and On your own device (OYOD). Companies take a balance among the benefits, the risks and the controllability when choosing a policy or strategy. On one hand, companies desire to improve their employees' satisfaction. On the other hand, they want to avoid risks and do not want to loss control over employees. A comparison among these four types of mobility strategies are presented in Table 1. As proposed in the table, BYOD has received so much attentions in recent years because it is considered as a relatively satisfactory trade-off among these dimensions (Ghosh et al., 2013).

Strategies	Descriptions	Level of employees' satisfaction	Level of risk	Level of controllability
Here is your own device (HYOD)	Devices are provided by organizations	4	4	1
Choose your own device (CYOD)	Organizations provide a number of devices, from which employees can choose their own devices	3	3	2
Bring your own device (BYOD)	Employees buy their own devices or organizations provide financial support	2	2	3
On your own device (OYOD)	Employees can bring in any devices, with no support from organizations	1	1	4

*Table 1. Comparison of Four Types of Mobility Strategies (adapted from Ghosh et al. 2013)*

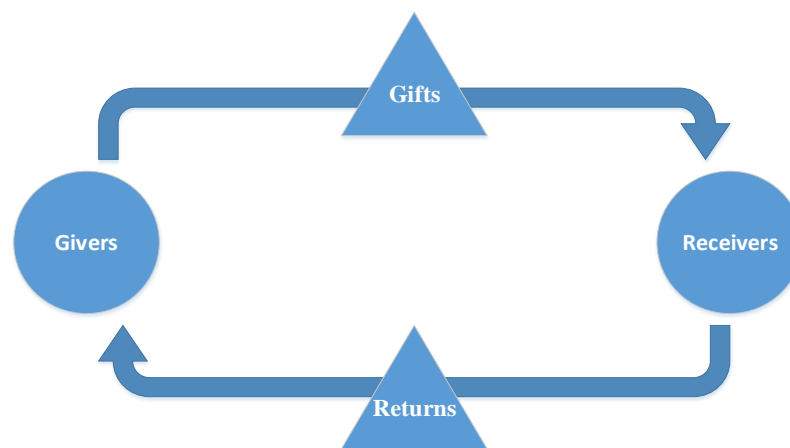
Note: The numbers represent the ranking in the level – 1 is the highest, and 4 is the lowest

BYOD is beneficial for both employees and companies as indicated by prior literature. For employees, they are more satisfied and familiar with their own choices, and more flexible and convenient (Lebek et al., 2013; Shim et al., 2013). For companies, BYOD is cost-saving, and can increase productivity and employees' morale (Shim et al., 2013). These studies assert that an increase on employees' flexibility may lead to an increase on satisfaction, which eventually increase productivity and morale at the organizational level (Lebek et al., 2013). It appears that companies' and employees' benefits are tightly intertwined with each other that it is hard for companies to be beneficial from BYOD if employees fail to get benefits. This intertwined

relationship impels us to touch on the gift perspective which provides an inner connection between employees and companies through BYOD.

## 2.2. Gift Economy

Gift economy, which is also known as gift exchange or reciprocal exchange, is a type of exchange among individuals and/or communities. The most basic criterion for gift economy is reciprocity or social norms that implicit rewards or returns are expected (Cheal, 1988; Kranton, 1996). The French socialist, Marcel Mauss, argued in his book “The Gift” that there was no free gift because any gift-giving implied an expected return (Mauss, 1954). A return gift is sent to keep relationships between givers and receivers while a failure to return gifts may end the relationships. Gift economy is distinguished from commodity economy that the exchange is delayed, and the exchanged goods are inalienable (Gregory, 1982). An illustration of gift economy is shown in Figure 1.



*Figure 1. Illustration of Gift Economy*

Gift economy has been widely observed in many areas. In the knowledge sharing context, reciprocity is always identified as a key driver for individuals' knowledge sharing behavior (Bock et al., 2005; Kankanhalli et al., 2005; Lin et al., 2009; Wasko & Faraj, 2005). Individuals share knowledge with others because they expect to gain knowledge from others in the future. A qualitative study in evaluating mobile technology values in organizations has also revealed that organizations give employees mobile phones with expectations of invisible control over employees (Isaac & Leclercq, 2006). The studies of psychological contracts between employees and companies has also indicated the existence and importance of reciprocal exchange (Morrison & Robinson, 1997; Robinson & Rousseau, 1994; Rousseau, 1990). When employees feel that companies cannot provide returns equivalent with their efforts, they are inclined to turnover.

In the context of BYOD, we argue that BYOD is a gift for employees when companies implement it because companies expect to be beneficial by their employees from BYOD implementation. Agreed on this argument, the next question is what are received by employees, and what are returned back to companies. The previous IT consumerization and BYOD studies have proposed that employees may perceive both positive and negative aspects of BYOD, such

as autonomy, competence, workload, control, threats, and so on (Loose et al., 2013; Niehaves et al., 2012; Niehaves, Köffer, Ortbach, et al., 2013; Ortbach, Bode, et al., 2013; Ortbach, Köffer, Bode, et al., 2013; Ortbach, Köffer, Müller, et al., 2013). However, these issues are mainly studied in the adoption context where less is known about what are received in this particular context – Whether or not BYOD affects organizational performance. To further address this problem, we integrate the cognitive evaluation theory which explains both positive and negative aspects of a policy as elaborated in the next subsection (Deci & Ryan, 1985; Li, 2009).

### **2.3. Cognitive Evaluation Theory**

Cognitive evaluation theory (CET) is a sub self-determination theory which concerns only on two innate needs – competence and autonomy (Deci & Ryan, 1985, 2004). According to CET, all contextual variables (BYOD in this study) include two aspects – informational and controlling – which influence two needs separately (Deci & Ryan, 1985; Li, 2009). The informational aspect refers to the information or issues provided by the contextual variables which enhance individuals' perception of competence and result in some positive outcomes in the end. By contrast, the controlling aspect refers that the contextual variables will restrict and change individuals' perception of locus of causality, then dissatisfying their need of autonomy and bringing some negative outcomes.

In line with previous BYOD studies, we propose that BYOD also has both informational aspect and controlling aspect. When employees perceive the informational aspect of BYOD, they will feel supported and empowered. In the regards, employees tend to work harder, be more satisfied, and be more committed (Bakker & Demerouti, 2007; Hakanen et al., 2008; Llorens et al., 2006). However, when the controlling aspect is perceived, employees will feel restricted and controlled. In this case, they may feel stressed or burnout (Bakker et al., 2004; Niehaves, Köffer, & Ortbach, 2013; Schaufeli & Bakker, 2004). Therefore, companies will gain positive returns from their employees when informational aspect is perceived while gain negative returns when controlling aspect is perceived. These returns will increase or decrease organizational performance respectively.

### **2.4. Theoretical Framework**

Motivated by above theories, we build our research framework as presented in Figure 2. We propose that BYOD is a gift entered into the gift exchange process. Both informational aspect (such as flexibility, convenience, autonomy, and so on) and controlling aspect (such as workload, invisible control, and so on) can be perceived by employees. After that both positive and negative individual-level outcomes regarding to different aspects will be returned back, for example, satisfaction and/or organization commitment in the positive side and stress and/or burnout in the negative side. These returns will eventually affect organizational performance positively or negatively.

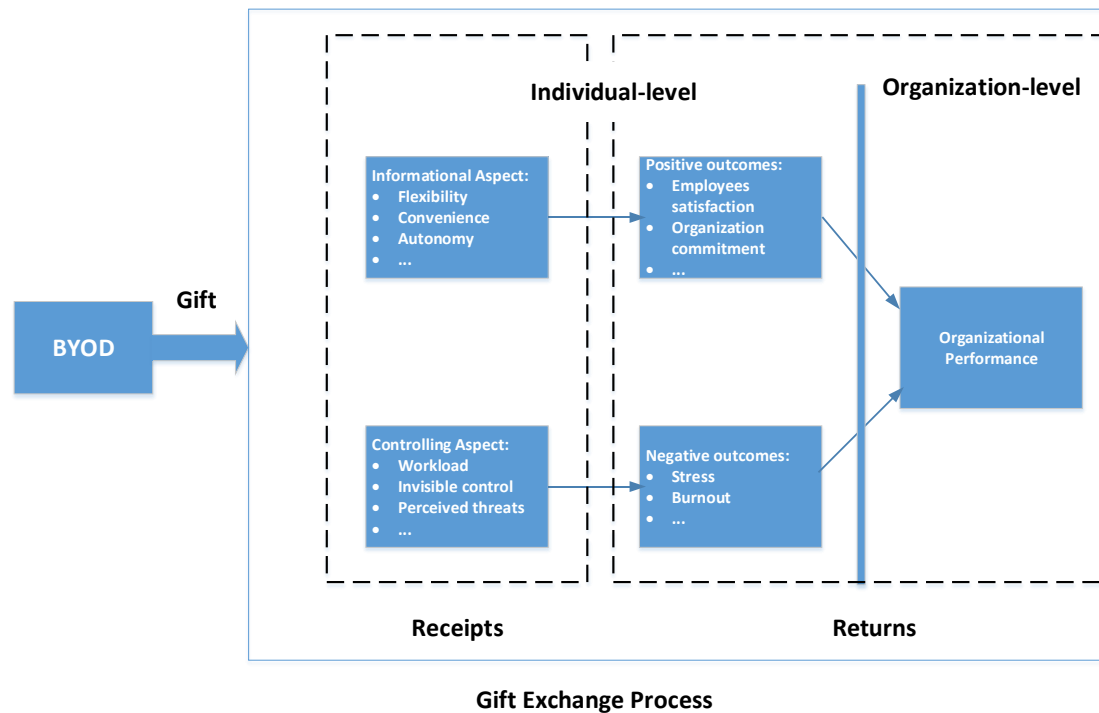


Figure 2. Research Framework

### 3. METHODOLOGY

The data for this study will be collected based on a two-step mixed methods approach including both qualitative and quantitative methods. This approach is able to address both confirmatory and exploratory research questions simultaneously (Tashakkori & Teddlie, 2003; Venkatesh et al., 2013). BYOD is a relatively new phenomenon hence companies are still uncertain about its effects. In this regard, it is still under-known of what factors are received and what outcomes are brought. Therefore, a qualitative method is appropriate for this purpose to figure out the specific receipts and returns of BYOD. The quantitative method can further improve confidence about the proposed research framework. Thus, this study intends to adopt this two-step mixed methods approach.

In the first step, we will conduct a case study in a company which has already implemented BYOD. Interviews will be conducted with both employees and executives in this company. In this step, employees will be asked to evaluate the BYOD in general, to list the benefits and costs they have obtained from BYOD, and to indicate what their companies expect them to do when implementing BYOD. The executives will be asked about companies' general evaluation of BYOD, their goals of implementing BYOD, and what positive and negative organizational outcomes are brought by BYOD. The answers will be coded and used to figure out the possible factors which are further studied in the next step.

In the second step, we will conduct a survey on the basis of factors identified in the first step. We will develop the instrument and invite employees and executives from the same companies which have implemented BYOD to take the survey. The questionnaire will be designed into

two versions, one is for employees and another is for executives. The hierarchical linear model will be utilized as analysis technique because of multiple levels in the proposed framework.

#### **4. POTENTIAL IMPLICATIONS**

This study is expected to provide several potential implications. First, BYOD is still a new and under-studied research phenomenon. This study explores how BYOD affects organizational performance, which enriches the extant BYOD and IT consumerization literature. In addition, this study addresses on the gift economy and the cognitive evaluation theory to build a solid theoretical background, which also expands the underpinning research basis of BYOD research.

This study also indicates the existence of reciprocity in BYOD implementation context, extending the applicability of reciprocity perspective into a new and important area. Reciprocity is identified as a key driver for individuals' knowledge sharing behavior (Bock et al., 2005; Kankanhalli et al., 2005; Lin et al., 2009; Wasko & Faraj, 2005), and is also studied in the mobile technologies use context and psychological contracts literature (Isaac & Leclercq, 2006; Morrison & Robinson, 1997; Robinson & Rousseau, 1994; Rousseau, 1990). By exploring the BYOD phenomenon, this study expects to bring some new understandings to gift economy or reciprocal exchange literature.

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